

1. An apparatus for a soft handoff, comprising:

- a plurality of base station transceivers; and
- a mobile station configured to:
 - measure power of signals transmitted by said plurality of base station transceivers;
 - identify each base station transceiver whose measured signal power is greater than a threshold;
 - place indicators of said identified base station transceivers to a first set;
 - transmit the indicators; and
 - establish a traffic channel to at least one of the identified base station transceivers not in communication with the mobile station via a traffic channel.

2. The apparatus of claim 1 wherein the mobile station places indicators of said identified base station transceivers to a first set by being configured to:

- determine indicators of said identified base station transceivers not included in the first set; and
- place the determined indicators to the first set.

3. The apparatus of claim 1 wherein the mobile station transmits the indicators by being configured to:

- transmit the indicators from the first set.

4. The apparatus of claim 1 wherein the mobile station transmits the indicators by being configured to:

- determine indicators of said identified base station transceivers not included in the first set; and
- transmit the determined indicators.

5. The apparatus of claim 1 wherein said plurality of base station transceivers are configured to:

- receive transmission of indicators; and

send a direction message if a base station transceiver is identified by the indicators.

6. The apparatus of claim 1 wherein said mobile station is further configured to:
receive a direction message.

7. The apparatus of claim 1 wherein the direction message comprises an identification of at least one neighboring base station transceiver.

8. The apparatus of claim 6 wherein said mobile station is further configured to:
adjust the indicators in the first set in accordance with the direction message.

9. The apparatus of claim 1 wherein said mobile station is further configured to:
use the indicators in the active set to search for the direction message.

10. The apparatus of claim 1, wherein a first set of said plurality of base station transceivers is configured to:
provide coverage to a cell in a cellular system.

11. The apparatus of claim 1, wherein a second set of said plurality of base station transceivers is configured to:
provide coverage to a sector of a cell in a cellular system.

12. In a communication system consisting of a plurality of base station transceivers transmitting signals on at least two channels and at least one mobile station capable of receiving the channels a method for a soft handoff, comprising:

measuring a signal strength for each of received plurality of first channels at a mobile station;

identifying the first channels whose measured signal power is greater than a threshold at the mobile station; and

placing indicators of said identified first channels to a first set at the mobile station.

13. The method as claimed in claim 12 wherein said placing indicators of said identified first channels to a first set, comprises:

determining indicators of said identified first channels not included in the first set; and

placing said determined indicators to the first set.

14. The method of claim 12 further comprising:

searching for a direction message using the indicators contained in the first set.

15. The method of claim 12 further comprising receiving a direction message at the mobile station.

16. The method of claim 15 further comprising:

adjusting the indicators of the first set in accordance with the direction message.

17. The method of claim 12 further comprising:

transmitting the indicators from the mobile station.

18. The method of claim 17 wherein said transmitting the indicators comprises:

transmitting the indicators placed to the first set.

19. The method of claim 17 wherein said transmitting the indicators comprises:

determining indicators of said identified first channels not included in the first set; and

transmitting said determined indicators.

20. In a communication system consisting of a plurality of base station transceivers transmitting signals on at least two channels and at least one mobile station capable of receiving the channels an apparatus for a soft handoff, comprising:

a mobile station configured to:

measure a signal strength for each of received plurality of first channels;

identifying the first channels whose measured signal power is greater than a threshold; and

placing indicators of said identified first channels to a first set.

21. The apparatus as claimed in claim 20 wherein said mobile station places indicators of said identified first channels to a first set by being configured to:

determine indicators of said identified first channels not included in the first set; and

place said determined indicators to the first set.

22. The apparatus of claim 20 wherein said mobile station is further configured to:

search for a direction message using the indicators contained in the first set.

23. The apparatus of claim 20 wherein said mobile station is further configured to:

receive a direction message.

24. The apparatus of claim 23 wherein said mobile station is further configured to:

adjust the indicators in the first set in accordance with the direction message.

25. The apparatus of claim 20 wherein said mobile station is further configured to:

transmit the indicators.

26. The apparatus of claim 20 wherein said mobile station is configured to:

transmit the indicators placed to the first set.

27. The apparatus of claim 20 wherein said mobile station is configured to:

determine indicators of the identified first channels not included in the first set; and

transmit the determined indicators.